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ABSTRACT

This study examined changes in the social interactions of children with and without disabilities, who were enrolled in inclusive preschool classes. It investigated the frequency of child participation in groups during free play, differences in participation patterns of children with and without disabilities, and ways in which children's patterns of participation with children and adults during free play changed over the course of the year. Four preschool classrooms with 59 children (52 typically developing and seven with such disabilities as spina bifida, cerebral palsy, and severe communication disorders) were observed during free play using a classroom mapping procedure and coding. The study found that children with disabilities were observed interacting with peers or playing in proximity to peers 58 percent of the time in the fall, and 54 percent in the spring. In contrast, normally developing children spent almost three quarters of their time in both fall and spring interacting with peers or in close proximity. Children with disabilities interacted with teachers 23 percent of the time in the fall and 31 percent in the spring (compared to about 10 percent both times for normally developing children). Results suggest that, while children with disabilities have social skill deficits and are seen as less desirable play partners, interactions between children with and without disabilities occurred with significant frequency. (Contains 13 references.) (DB)

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Changes in Preschool Children's Social Interactions with Classmates With and Without Disabilities

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It is increasingly common for early intervention services for children with disabilities to be provided in community preschool programs serving normally developing children (Wolery, et al., 1993). When children with disabilities are enrolled in inclusive early childhood programs, they have more opportunities for interaction, demonstrate more appropriate social interactions, and display greater numbers of initiations of interactions with peers when compared with children enrolled in self-contained early childhood special education classes (Lamorey & Bricker, 1993).

In a recent review of 22 investigations, Buysse and Bailey (1993) reported advantages in social skills for young children with disabilities in inclusive settings, when compared with peers in self-contained special education classes. Hauser-Cram and her colleagues have found that young children with disabilities in inclusive settings spend more time engaged in social interaction with their peers and have more positive modes of interaction than those in separate settings (Bronson, Hauser-Cram, & Upshur, 1995; Hauser-Cram, Bronson, & Warfield, 1993).

Although children with disabilities demonstrate higher levels of social skills in inclusive settings when compared with specialized settings, numerous studies have demonstrated that young children with disabilities demonstrate less advanced social skills than their normally developing peers (Belmont & Mitchell, 1987; Guralnick & Groom, 1987, 1988; Guralnick, Connor, Hammond, Gottman, & Kinnish, 1995). In addition, these social skill deficits appear to be associated with lower levels of peer acceptance. For example, children with disabilities,

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compared with typically developing children, interact less frequently with their peers in mainstream settings (Bandyk & Diamond, 1996; Odom & McEvoy, 1988), employ less successful group entry strategies (Beckman & Kohl, 1987), and establish fewer reciprocal interaction patterns (Guralnick & Groom, 1988).

Guralnick and his colleagues have suggested that one might expect that children with disabilities will be more isolated than their peers without disabilities in inclusive classrooms because of their less competent social interaction skills. They found, however, that while children with disabilities were less accepted than their normally-developing peers (based on sociometric ratings), "interactions between children with and without developmental delays occurred with considerable frequency" (Guralnick, et al., 1995).

Much of the research focusing on children's social interactions has been conducted in planned playgroup settings (see Guralnick) or in classrooms designed primarily to address the needs of children with disabilities (see Odom) rather than in the context of an inclusive early childhood class that includes a majority of children without disabilities. The purpose of this research project was to examine changes in the social interactions of children with and without disabilities, enrolled in an inclusive preschool class, over the course of one school year. We were particularly interested in peer-related interactions, in interactions with teachers, and in the ways in which the frequency of these interactions changed from the fall to the spring. Our specific goals were to: describe the frequency with which children were observed participating in groups during free play, identify differences in participation patterns of children with and without disabilities, and to identify the ways in which children's patterns of participation with children and adults during free play changed over the course of the school year.

METHOD

Participants and setting: Fifty nine preschool children enrolled for the entire school year in one of four inclusive early childhood classrooms participated in this study. Fifty-two of the

participants--26 boys and 26 girls--were typically developing children. The mean age of these children was 47 months. Seven of the children--4 boys, 3 girls--had identified disabilities that included spina bifida, cerebral palsy, and severe communication disorders. The mean age of children with disabilities was 48 months. Approximately 15% of children in each classroom included children with disabilities. (This follows the recommendation of Brown and Salisbury that the proportion of children with disabilities in any one classroom should be approximately the same as the proportion of children with disabilities in the population as a whole). Children with disabilities participated in all of the classroom activities, with adaptations as needed. The local school corporation provided a consultant special education teacher, along with other therapists, to support the child's classroom participation.

Procedure: Children were observed during free play, using a classroom mapping procedure similar to the one described by Ramsey (1995) in her recent article on social dynamics in early childhood classrooms. Once every ten minutes during free play, trained observers wrote down the names of the children and identified teachers on a map of the classroom, as well as coding child-child and teacher-child interactions. An average of 52 observations were collected of each child during one month in the fall (range = 39-61 observations) and an average of 42 observations (range 30 - 54) were collected during one month in the spring.

Date reduction: Based on data from the classroom maps, children's interactions were coded in one of four categories: peer social interaction, proximity to a peer group (i.e., within 2 feet of 1 or more children) without interaction, interaction with a teacher, and solitary play. Because we did not have the same number of observations for each child, we calculated frequency scores for each of the 4 different types of free play contact patterns. An additional sub-category, peer social interactions that included a classmate with a disability was calculated by dividing the number of interactions that included a child with a disability by the total number of social interactions for that child.

We examined our interaction variables for normality and used square root transformation on those variables that were not normally distributed (specifically, the frequency of interactions with a classmate who had a disability).

RESULTS and DISCUSSION

We first examined relationships between children's gender, age, and the frequency with which they participated in different types of play. Results of our analyses revealed no significant gender differences. We found significant positive relationships between children's age and the frequency with which we observed social interaction with peers. For this reason, age was used as an independent variable in our analyses.

Our first goal in this study was to describe the frequency with which children participated in groups with peers and adults during free play. As you can see from Figure 1, normally developing children were observed interacting with their peers during approximately 38% of our observations in the fall and during 48% of our observations in the spring. Children were observed playing in proximity to a group of children (without interacting) during approximately 37% of our observations in the fall and 27% of our observations in the spring. The remainder of the time was spent interacting with a teacher (approximately 10%) or playing alone (less than 20%). Thus, in both fall and spring, normally developing children with either interacting with their peers, or playing in proximity to a group of children, for almost 3/4 of our observations.

Our findings for children with disabilities are somewhat different than those for normally developing children. Children with disabilities were observed interacting with peers approximately 25% of the time in the fall and 22% of the time in the spring. In addition, children with disabilities were observed playing in proximity to a group of their peers during approximately 33% of our observations in the fall and 32% of our observations in the spring. Interactions with teachers were observed during 23% of our fall observations and 31% of our

observations in the spring. Less than 20% of the time in either the fall or the spring was spent in solitary play.

Next, we used a repeated measures MANOVA to examine these differences in the frequency with which we observed children with and without disabilities interacting with peers and teachers over the course of the school year. Because we were completing multiple analyses with the same dataset, we set the significance level at .01 to reduce the probability of Type I error. Since we had initially found significant relationships between children's age and play participation, we used age as an independent variable in our analyses. For the first analysis, we used the proportion of our observations in which children were interacting with their peers as the dependent variable, repeated over fall and spring, and age and disability as the independent variables. Results of this analysis revealed significant main effects of both age ($F=15.2$, $df=1, 57$, $p<.0003$) and disability ($F=23.9$, $p<.0001$), and a significant interaction between disability and time of observation. As you see from this figure (Figure 2), normally developing children were observed more often engaged in peer interaction than were children with disabilities, and for normally developing children only, the proportion of the time in which they engaged in peer interaction increased over the course of the school year.

Then we examined the proportion of time in which children were observed interacting with a teacher and playing in proximity to a group of peers in two subsequent MANOVAs. In the first of these analyses, age and disability were the independent variables, and proportion of observations that included interaction with a teacher was the dependent variable. Results of this analysis revealed significant main effects of age ($F=6.4$, $df=1, 56$, $p<.01$) and disability ($F=27.1$, $df=1, 57$, $p<.0001$). There was no significant effect of time and no significant interaction effects. Teacher-child interaction was observed more frequently for young children and children with disabilities than for older children and normally developing children.

In the next analysis, we used the same independent variables, with proportion of time spent in proximity to a peer group as the dependent variable. Results of this analysis revealed a significant main effect of age ($F=7.5$, $df= 1,56$, $p=.01$), but no effects of disability or time and

no interaction effects. Younger children were more likely to be observed in proximity to a peer group, but not interacting with peers, than were older children.

In our final analysis, we focused only on normally developing children and the frequency with which they were observed interacting with classmates with disabilities. The proportion of interactions that included a child with a disability was 15.8% in the fall, but only 7% in the spring. Next we used a repeated measures MANOVA in which age was the independent variable, time was the repeated measure and interaction with a peer with a disability was the dependent variable. Results of this analysis revealed a marginally significant effect for age ($F=4.4$, $df=1, 50$, $p<.05$), but no effect for time and no interaction. Younger children were observed interacting with a peer with a disability more often than older children.

These findings are consistent with those of other researchers who suggest that social, interactive play becomes more frequent, and parallel play becomes less frequent, over the preschool developmental period. As they became older, and more familiar with their classmates, the normally developing children in our study became more likely to spend time in social interactions with peers. While the proportion of observations that included social interactions with peers increased from fall to spring, interactions at the end of the year were less likely to include a classmate with a disability.

Children with disabilities were observed interacting with their peers approximately 1/4 of the time in both fall and spring. Unlike their normally developing peers, the frequency with which children with disabilities engaged in social interactions did not change over the school year.

These results are consistent with those of many others who have found that children with disabilities participate less often in social interactions than do their normally developing peers, and that normally developing children prefer other children of similar age and developmental abilities as playmates. If children's preferences for specific peers as playmates reflect shared interests, as well as similar abilities, then children are likely to use their knowledge of peers in choosing play partners. Guralnick suggests that a majority of children with disabilities have

significant peer-related social skill deficits, and it may be that these 'deficits' are reflected in our findings. One might hypothesize that children with disabilities are less desirable play partners because of their disability-related difficulties with social skills, and that as normally developing children become increasingly sensitive to these social skill problems they may be less likely to select a peer with disabilities as a preferred playmate. Nonetheless, the fact that children with disabilities were observed interacting with their peers during approximately 1/4 of our observations in both the fall and the springs suggests that there were always some normally developing children who continued to play with classmates with disabilities. This finding is reminiscent of that of Guralnick and his colleagues who reported that while children with disabilities were less accepted than their normally developing peers, interactions between children and without disabilities occurred with considerable frequency. The task that lies before us is to better understand individual child and classroom variables that are related to, and that support, interactions among diverse groups of children.

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Figure 1.
Normally developing children:
Observations during free play

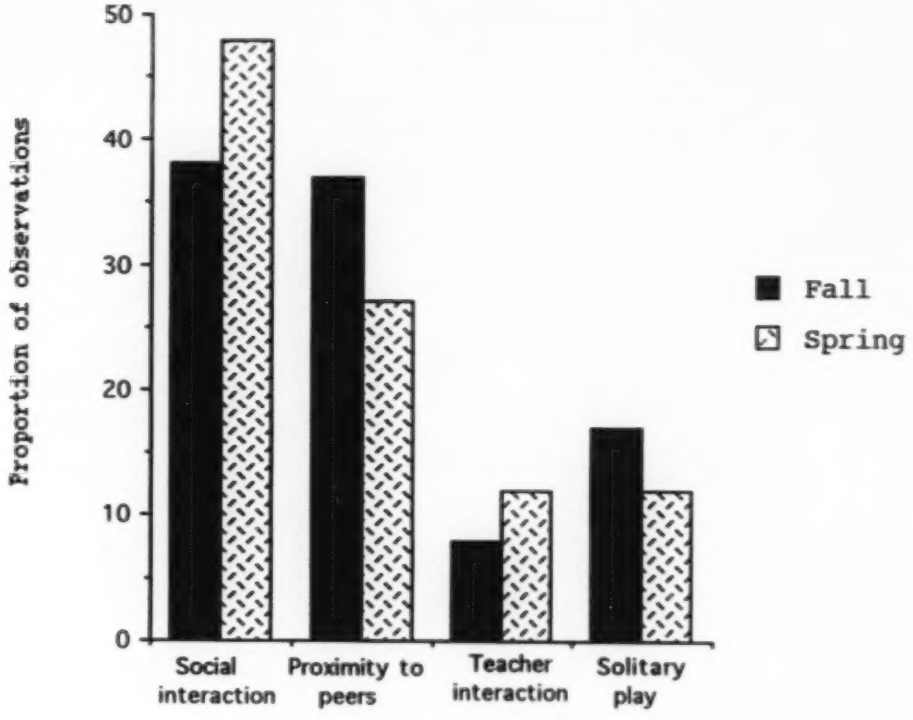

Figure 2.
Children with disabilities:
Observations during free play